

REMARKS

In accordance with the Examiner's remarks on page 2 of the Final Office Action, non-elected claims 1-6 and 23-27 are hereby cancelled without prejudice to the subject matter claimed therein.

Applicants gratefully acknowledge the courteous and helpful interview had with the Examiner on November 7, 2003.

One of the issues discussed during the interview concerned the objection to applicants' previous amendment to claim 7, i.e. the above phrase which is now cancelled.

The Examiner acknowledged his withdrawal of the rejection concerning applicants' epoxidized anti-gelling agents based on Jon (WO 99/18782) and accordingly indicated claims 8, 20, 21 and 28-30 directly or indirectly depend on claim 7, no amendment to these claims is necessary.

The gel resistant concentrate of applicants' Claim 7 (and dependent claims 9-19 and 22) currently stand rejected under 35 U.S.C. 102(b) as anticipated by the water-dilutable microemulsions of Jon et al in their Table 1 formulation disclosing a molecular sieve which is equated to applicants' inorganic oxide or metal oxide anti-gelling agent.

It was respectfully submitted that molecular sieves are silicates, e.g. zeolites\*; not an oxide or a metal oxide. Molecular sieves are used primarily as adsorptive desiccants as employed by Jon et al (page 3, lines 7-10). These silicates are not anti-gellants, indeed their water adsorbing properties would be conducive to gelling.

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\* See The Condensed Chemical Dictionary,  
9<sup>th</sup> Ed., page 586 attached

SERIAL NO. 10/077,612

In view of the above amendments and discussion, it is respectfully requested that the Examiner reconsider and withdraw the rejection of claims 7, 9-19 and claim 22. Applicants look forward to a formal notice of allowance of claims 8-22 and 28-30.

Respectfully submitted,

A handwritten signature in black ink, reading "Marilyn J. Maue". The signature is written in a cursive, flowing style.

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*The*  
*Condensed Chemical*  
*Dictionary*

NINTH EDITION

*Revised by*

*GESSNER G. HAWLEY*

*Coeditor, Encyclopedia of Chemistry*  
*Coauthor, Glossary of Chemical Terms*



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uation of the number of moles of substance. The most common involves the measurement of mass. Thus 25,000 grams of  $H_2O$  will contain 25,000/18.015 moles of  $H_2O$ ; 25,000 grams of sodium will contain 25,000/22.990 moles of sodium. The convenient measurements on gases are pressure, volume, and temperature. Use of the ideal gas law constant  $R$  allows direct calculation of the number of moles:  $n = (P \times V) / (R \times T)$ .  $T$  is the absolute temperature;  $R$  must be chosen in units appropriate for  $P$ ,  $V$ , and  $T$ . The acceptance of Avogadro's law is inherent in this calculation; so too are approximations of the ideal gas. See also Avogadro's law. William F. Kieffer

**molecular biology.** A subdivision of biology that approaches the subject of life at the level of molecular size. This applies to phenomena occurring within the cell nucleus, where the chromosomes and genes are located. These structures, which determine heredity, are in turn composed of nucleic acids (q.v.), which direct the selection and assembly of amino acids in the dividing chromosomes. Much of the essential mechanism of life can be understood by study of specific protein molecules (DNA and RNA) and their effect on the amino acid composition of the genes. See also genetic code; deoxyribonucleic acid; recombinant DNA.

**molecular distillation** (high vacuum distillation). Distillation at low pressures of the order of 0.001 mm. A molecular distillation is distinguished by the fact that the distance from the surface of the liquid being vaporized to the condenser is less than the mean free path (the average distance traveled by a molecule between collisions) of the vapor at the operating pressure and temperature. This distance is usually of the order of magnitude of a few inches. This process is useful in separation of extremely high boiling and heat-sensitive materials such as glycerides and some vitamins.

**molecular formula.** See formula, chemical.

**molecular rearrangement.** See rearrangement.

**molecular sandwich** (sandwich molecule). See metallo-cene.

**molecular sieve.** A group of adsorptive desiccants which are crystalline aluminosilicate materials, chemically similar to clays and feldspars and belonging to a class of minerals known as zeolites (q.v.). The outstanding characteristic of these materials is their ability to undergo dehydration with little or no change in crystal structure. The dehydrated crystals are interlaced with regularly spaced channels of molecular dimensions. This network of uniform pores comprises almost 50 per cent of the total volume of crystals.

The empty cavities in activated "molecular sieve" crystals have a strong tendency to recapture the water molecules that have been driven off. This tendency is so strong that if no water is present they will accept any material that can get into the cavity. However, only those molecules that are small enough to pass through the pores of the crystal can enter the cavities and be adsorbed on the interior surface. This sieving or screening action, which makes it possible to separate smaller molecules from larger ones, is the most unusual characteristic of molecular sieves. They are used in many fields of technology: to dry gases and liquids; for selective molecular separations based on size and polar properties; as ion-exchangers; as catalysts; as chemical carriers; in gas chromatography; and in the petroleum industry

to remove normal paraffins from distillates. See also zeolite; gel filtration.

**molecular weight.** The sum of the atomic weights of the atoms in a molecule. That of methane ( $CH_4$ ) is 16.032, the atomic weights being  $C = 12$ ,  $H = 1.008$ . The chemical formula used in such a calculation must be the true molecular formula of the substance designated. For example, the molecular formula of oxygen is  $O_2$ , and its molecular weight is 32 (atomic weight of  $O = 16$ ). For ozone the molecular formula is  $O_3$ , and the molecular weight is 48. The true molecular weight of a gas or vapor is found by measuring the volume of a given weight and then calculating the weight of 22.4 liters at  $0^\circ C$  and 760 mm. The molecular weight of many complex organic molecules runs as high as a million or more (proteins and high polymers). See also Avogadro; atomic weight; mole.

**molecule.** Molecules are chemical units composed of one or more atoms. The simplest molecules contain one atom each; for example, helium atoms (one atom per molecule) are identical with helium molecules. Oxygen molecules ( $O_2$ ) are composed of two atoms, and ozone ( $O_3$ ) of three. Molecules may contain several different sorts of atoms. Water ( $H_2O$ ) contains two different kinds, hydrogen and oxygen, and dimethyl amine [ $CH_3$ ] $_2$ NH has three kinds. Molecules of many common gases [hydrogen ( $H_2$ ), oxygen ( $O_2$ ), nitrogen ( $N_2$ ), and chlorine ( $Cl_2$ )] consist of two atoms each. The atoms of a molecule are held together by chemical bonds. Molecules vary in size from less than 1 to more than 300 millimicrons. The latter are called macromolecules (q.v.). See also bond, chemical; atom.

**"Molex."**<sup>416</sup> Proprietary process employing molecular sieves to separate normal paraffins from mixtures with isoparaffins and other types of hydrocarbons. Products consist of a normal paraffin stream of high purity and a second stream containing the remaining hydrocarbons in the original mixture. The normal paraffins are excellent components of jet fuels or as raw materials for further chemical synthesis. The denormalized stream, if within the gasoline boiling range, will have higher antiknock quality than the original mixture containing the normal paraffins. The present commercial application is in producing normal paraffins for conversion into "soft" detergent alkylates.

**"Moli-Spray."**<sup>456</sup> Trademark for a suspension of finely divided molybdenum disulfide powder. Forms a fast drying, adhesive film on all surfaces. Containers: 16-oz aerosol can.

**molten salt.** See fused salt.

**"Molytropren."**<sup>470</sup> Trademark for urethane polyester and polyether foams.

**"Moly."**<sup>467</sup> Trademark for a series of molybdenum-containing compounds used for seed treatment as a foliar spray, fertilizer additive and for similar related uses.

**molybdate chrome orange.** See molybdate orange.

**molybdate orange** (molybdenum orange; molybdate chrome orange). A solid solution of lead chromate, lead molybdate, and lead sulfate.

Properties: Fine dark orange or light red powder. Derivation: By adding solutions of sodium chromate, sodium molybdate and sodium sulfate to a lead nitrate solution under carefully controlled conditions and filtering off the precipitate.